## ATTACHMENT 8. QUALITY ASSURANCE

**Demonstrate that appropriate and well-defined Quality Assurance and Quality Control (QA/QC) measures will be used in each task. The information-gained discussion and QA/QC plan in this section should be consistent and incorporated into the project work plan. QA/QC measures may include, but are not limited to the following:**

- **Procedural assurances, such as review processes for quality of reports, data, and lab analyses**

- **An existing or proposed QA/QC plan for field sampling and lab analysis of water quality that ensures high accuracy and precision**

- **Personnel qualifications that may include professional registrations (such as a California Professional Geologist or Professional Engineer), certifications, and experience of persons performing and overseeing work to be performed**

- **Standardized methodologies to be used, such as construction standards, health and safety standards, laboratory analysis, or accepted soils classifications methods**

- **Standardized analyses, such as statistical tests or American Society for Testing and Materials and U.S. Environmental Protection Agency analytical methodologies**

- **Quality requirements of material or computational methods, such as use of specific grades of building materials or use of specific, tested, and established models (or software)**

- **Comparison and calibration of models with actual data to enhance accuracy of modeling results**

Quality Assurance and Quality Control (QA/QC) procedures will be followed throughout the Project to ensure that the drilling and sampling activities described in the work plan are performed in accordance with industry standards and meet the project objectives. Appropriate and well-defined QA/QC measures will be implemented in each task and incorporated into the project work plan. The QA/QC measures may include, but are not limited to the following for Tasks 2-5:

Task 2 – Environmental Documentation

West Basin will ensure that all State and Federal requirements are adhered to for the environmental documentation and permitting requirements. Staff is very experienced in performing this task for all of West Basin's construction projects. West Basin has qualified staff for environmental and water quality compliance to protect both environment and community. The Senior Environmental Quality Specialist will be responsible for all quality assurance and quality control of environmental permitting for this Project and any needed monitoring. The Specialist will also have professional experts in the field of both CEQA/NEPA as well as Hydrogeology to ensure that all environmental documentation is correct and effective. This team will also ensure that any unforeseen events (i.e. soil issues) can be mitigated and remedied immediately. The progress, both schedule and QA/QC, for environmental documentation will be tracked by the West Basin Specialist and coordinated with the construction management team so that project delays do not occur and so that the public is not un-necessarily inconvenienced.

Task 3 – Preparation of Construction Contract Documents

The QA/QC measures for this task include technical review, by a California Professional Geologist or

Professional Engineer, of all technical documents prepared to ensure accurate data calculation and reporting. The monitoring well design will be consistent with California DWR Well Standards Bulletin 74-90 Monitoring Well Standards. In addition, the site health and safety plan will be reviewed by a Certified Industrial Hygienist to ensure that all current safety standards and monitoring requirements including OSHA are achieved.

Task 4 – Bidding and Award of Construction Contract

The QA/QC measures for this task include technical review, by a California Professional Geologist or Professional Engineer, of all technical documents prepared to ensure accuracy. The bid documents will reference standardized methods and tests by American Society for Testing and Materials (ASTM) for well drilling and testing and U.S. Environmental Protection Agency (EPA) analytical methodologies for water quality testing.

Task 5 - Monitoring Well Construction and Documentation

The QA/QC measures for this task include the following:

- A full-time field observation and documentation of drilling activities by a field geologist under a direct supervision of a California Professional Geologist.

- Air monitoring of the worker breathing zone with a Photoionization Detector (PID).

- The use of the standardized Unified Soil Classification System (USCS) procedures for soil logging and Munsel color charts for standardized descriptions of earth materials.

- The use of U.S. EPA analytical methodologies for water quality testing by a California Environmental Laboratory Accreditation Program (ELAP)-accredited laboratory that have demonstrated capability to analyze environmental samples using approved methods.

- The use of a field logbook to record personnel present, study area conditions, significant events, etc. A system of standardized forms will be used for field data acquisition and management. Information collected during the borehole drilling, monitoring well installation, development, and groundwater sampling activities performed during the field investigation will be recorded directly onto the appropriate forms.

- All equipment used during the field activities will be operated, maintained, calibrated, and standardized in accordance with manufacturer recommended procedures. All maintenance and calibration operations will be documented in the field logbook.

- Establish sample documentation procedures for soil and groundwater sampling activities for accurate inventory control of samples during collection, transportation, and storage. Sample documentation during field investigation activities includes preparation of sample identification documents so that sample identification and chain-of-custody records can be maintained and sample disposition can be controlled and tracked. The field sampler will be personally responsible for sample care and custody from the time the sample is collected to the time the sample is transmitted or shipped to the project laboratory. The sampler will properly prepare and seal shipping containers to assure sample integrity during transport to the laboratory. The project manager will ensure that proper custody-of-custody procedures are followed during field work and will review all chain-of-custody information on a routine basis to verify compliance with

established QA/QC procedures.

- Preparation and/or review of the well construction report by a California Professional Geologist.

- Performing internal audits to review and evaluate the adequacy of the QA/QC plan and to ascertain that it has been implemented. The internal audits include an evaluation of field and laboratory QA/QC procedures. If the audit shows a significant discrepancy from the Work Plan or the QA/QC plan, a Corrective Action Report will be issued and the responsible party will be required to remedy the situation. Any major system change requires a written summary to document the change made.